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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/409,813	09/30/1999	KLAUS BUCHENRIEDER	P99.1885	5914
29177	7590	06/06/2006	EXAMINER	
BELL, BOYD & LLOYD, LLC			MIRZA, ADNAN M	
P. O. BOX 1135			ART UNIT	
CHICAGO, IL 60690-1135			PAPER NUMBER	
			2145	

DATE MAILED: 06/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/409,813	<b>Applicant(s)</b> BUCHENRIEDER ET AL.	
	<b>Examiner</b> Adnan M. Mirza	<b>Art Unit</b> 2145	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 03 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>03/03/2006</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

1. Claims 1, 9 are rejected under 35 U.S.C. 102(a) as being unpatentable by Nelson et al (U.S. 5,812,857).

As per claims 1,9 Nelson disclosed a method for operating a first computer that is connected to a network, the method comprising the steps of: providing that the computer have an FPGA hardware structure which may be physically reconfigured; loading first configuration data including a software portion and a hardware portion for a first task (col. 4, lines 41-50), allocated to the first computer (col. 3, lines 21-39), into the first computer via the network wherein the loading is initiated either independently or in response to a specific request (col. 4, lines 41-50); automatically reconfiguring the FPGA hardware structure of the first computer with the aid of the hardware portion of the first configuration data so that the first computer exhibits a hardware structure adjusted to the first task (Fig. 4, element 41, col. 5, lines 1-28 & col. 4, lines 23-26)), and processing the first task with the first computer configured with the first configuration data (col. 5, lines 25-45). Nelson's stated Network drivers that can be interpreted software component for network devices (e.g. Network cards, NICS) that are hardware components of the computer system. Nelson also taught that once the new drivers are available on the network and being

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downloaded on the computer system resulted in automatically overwriting the old drivers or configuring with the updated new features of the drivers.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3,9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li et al (U.S. 6,012,088) and in view of Tang et al (U.S. 6,298,370).

As per claims 1 Li disclosed a method for operating a first computer that is connected to a network, the method comprising the steps of: providing that the computer have an FPGA hardware structure which may be physically reconfigured; loading first configuration data including a software portion and a hardware portion for a first task, allocated to the first computer (col. 9, lines 13-25), into the first computer via the network wherein the loading is initiated either independently or in response to a specific request (col. 9, lines 26-32 & lines 50-59); automatically reconfiguring the FPGA hardware structure of the first computer with the aid of the hardware portion of the first configuration data so that the first computer exhibits a hardware structure configured to the first task (col. 12, lines 44-48 & col. 3, lines 54-61). However Li failed to disclose processing the first task with the first computer configured with the first configuration data. In the same field of endeavor Tang disclosed processing the first task with the first computer with the first configuration data (col. 3, lines 35-50).

It would have been obvious to one having ordinary skill in the art at the time of the invention was made to have incorporated processing the first task with the first computer configured with the first configuration data as taught by Tang in the method of Li to reduce the latency by doing multitasking.

6. As per claims 2 Li-Tang disclosed A method for operating a first computer as claimed in claim 1 further comprising the step of: configuring, prior to completion of the step of processing the first task, a part of the hardware of the computer that is no longer necessary for the step of processing the first task (Tang, col. 24, lines 54-61), for processing a second task by loading second configuration data allocated to the second task into the computer via the network (Tang, col. 128, lines 34-64).

7. As per claims 3 Li-Tang disclosed a method further comprising the step of processing the second task prior to the completion of the step of processing the first task (Tang, col. 128, lines 34-64).

*Response to Arguments*

Applicant's arguments filed 03/03/2006 have been fully considered but they are not persuasive.

Response to applicant's argument are as follows:

8. Applicant argued that Nelson does not disclose a Field Programmable Gate Array (FPGA) configuration where FPGA's are known in the art as semiconductor devices used to process digital information, utilizing gate array technology that can reprogrammed as hardware after it is manufactured, rather than having its programming fixed during the manufacturing and Nelson also does not disclose "automatically reconfiguring the FPGA hardware structure of the computer with the aid of the hardware portion of the first configuration data so that the computer exhibits a hardware structure configured to the first task; and processing the first task with the computer configured with the first configuration data".

As to applicant's argument Nelson disclosed, "First the old downloader copies the ram-to-flash loader, the new network drivers and the temporary downloader to ram memory as shown in FIG. 5. FIG. 6, shows the location of the blocks of code after this step. Referring to Fig. 7, the ram-to-flasher loader 43 next executes from ram and copies the new network drivers and the temporary downloader into flash memory 9, over writing and thus destroying the old downloader and the old feature set 57" (col. 5, lines 19-29). One ordinary skill in the art knows that overwriting the old feature set as reconfiguring the parameters, the network drivers also considered as software

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to configure the hardware of the computer. One ordinary skill in the art at the time of the invention knows that every computer comprises of FPGA hardware.

9. Applicant argued that Nelson does not disclose, “reconfiguring a hardware structure of the computer with the aid of the hardware portion of the first configuration data”.

As to applicant argument Nelson disclosed a single set of network driver code for both downloading purposes and implementation of feature function. It is further object of the present invention to provide a means to download new download code, including new network drivers, to a field configurable embedded computer system installed at a customer site in the field (col. 3, lines 29-35). Move computer code from a master computer to configurable embedded computer system during a download (col. 5, lines 1-3). One ordinary skill in the art of the invention knows that downloading code or Network drivers that represent configuration files which on download perform different new tasks.

10. Applicant argued that Li does not disclose an Internet access device and also does not disclose a modifying or structuring the hardware of the network computer using the configuration data in any respect.

As to applicant’s argument Li disclosed that the Internet access device is able to automatically configure itself for communications with the Internet using information contained in the configuration record (col. 14, lines 53-56). It should be appreciated that the configuration record

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may contain any other information needed by the Internet access device to automatically configure itself for communication with a wide variety of communication lines in order to connect to the Internet (col. 14, lines 66-67, col. 15, lines 1-3). One ordinary skill in the art at the time fo the invention clearly sees that that Li prior does consist of Internet access device

11. Applicant argued that Tang does not disclose a computer network which receives configuration data and, in response thereto, configures the hardware of the network computer so as to obtain a hardware structure which is adjusted to the respective task.

As to applicant's argument Tang disclosed the Direct DSP software uses Microsoft's multitasking and multithreaded Windows OS and COM-based software to dynamically sense the system hardware capabilities when an application open, and when it loads/unloads hardware resources for plug and play (col. 31, lines 55-60). The DirectX COM-based API has an application query a system for hardware description and capabilities at run-time while substituting the absent hardware features with host emulation where possible (col. 31, lines 65-67 & col. 32 lines 1-2). For example, an application queries the DirectDSP API embodiment for system device configuration at run-time. DirectDSP in turn queries the DirectDSP HAL embodiment regarding the H/W device capabilities (col. 32, lines 12-15).

12. Applicant argued that Nelson does not disclose the claimed feature of "loading first configuration data including a hardware portion and a software portion".



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As to applicant's argument Nelson disclosed the download network driver section typically operates only when the device is selected to operate in download mode. The feature network driver section only operates when the device is operating in its normal operating mode (col. 4, lines 46-50).

13. Applicant argues that Nelson does not disclose a method whereby the physical hardware structure of computer may be configured.

As to applicant's argument Nelson disclosed, "to provide a means to download new download code, including network drivers, to a field configurable embedded system installed at a customer site in the field (col. 3, lines 32-5). Nelson's stated Network drivers that interpreted software component for network devices (e.g. Network cards, NICS) that are hardware components of the computer system. Nelson also taught that once the new drivers are available on the network and being downloaded on the computer system resulted in automatically overwriting the old drivers or configuring with the updated new features of the drivers.

14. Applicant argued that improper hindsight was used to combine Li and Tang references.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed

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invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

### ***Conclusion***

**15. THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

**16.** Any inquiry concerning this communication or earlier communication from the examiner should be directed to Adnan Mirza whose telephone number is (571)-272-3885.

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17. The examiner can normally be reached on Monday to Friday during normal business hours. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Cardone can be reached on (571)-272-3933. The fax for this group is (703)-746-7239. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

18. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866)-217-9197 (toll-free).

AM

Adnan Mirza

Examiner

  
**JASON CARDONE**  
SUPERVISORY PATENT EXAMINER